STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING
1588 West North Temple
Salt Lake City, Utah 84116
(801) 533-5771

M E M O R A N D U M
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TO: The Board of Oil, Gas and Mining

FROM: Mary Ann Wright, Reclamation Biologist MAW

SUBJECT: Stauffer Chemical Company, Vernal Operations
Unitah County, Utah - ACT/047/007

DATE: April 18, 1980

The Division of Oil, Gas and Mining has reviewed the Mining and Reclamation Plan submitted by Stauffer Chemical Company for their Vernal Operations and feels that the Plan meets the requirements of the Utah Mined Land Reclamation Act. The Division seeks the Board's concurrance so that tentative approval may be issued for this mine. An Executive Summary for the Mine is enclosed for your review and information.

Stauffer Chemical Company has requested a contract form of surety for their Mine. The details of this contract are still being worked out by the Division and the Company. The Division seeks the Board's concurrance with the form of surety which has been proposed and with the general nature of the contents of the contract.

MAW/sp
enc: Executive Summary

E X E C U T I V E S U M M A R Y
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STAUFFER CHEMICAL COMPANY

Vernal Operations
ACT/047/007
Uintah County, Utah

COMODITY:

Stauffer Chemical Company operates an existing open-pit phosphate mine which covers an area of roughly 15,245 acres. Stauffer Chemical Company ownes both the surface and the minerals at this site.

LOCATION:

The Mine is located in Townships 2 & 3 South, Ranges 21 & 22 East. This location is approximately 10 miles north of the town of Vernal, Utah. A map is enclosed showing the location of this Mine.

GEOLOGY AND SOILS:

Numerous erosional gullies and gulches cut across the property at the mine site creating very rugged topographic features. With the exception of some of the deeper drainages, the entire property contains a relatively low-grade, flatly dipping bedded phosphate depost. The phosphate bed is of uniform thickness and continuity and dips 5 percent to 15 percent in a southerly direction. Stratigraphically, it lies atop the massive Weber Sandstone and is overlain by various thicknesses of limestone and limey sandstone overburden, locally refered to as the upper and lower cliff-formers. Many of the drainages cut deeply enough into the overlying structures to expose the phosphate bed. It is along these outcrops and adjacent low overburden that current mining is centered.

HYDROLOGY:

Two perennial streams, Big Brush Creek Gourge and Little Brush Creek, flow through the mine site. It is not proposed at this time that these streams will be disturbed by the mining operations. The Division will grant variance to allow phosphate mining within the ephemeral drainages on the property site provided that the disturbed areas are expiditiously reclaimed upon abandonment. Major drainage patterns will be restored but not necessarily to the original profile. No groundwater has been encountered at this site to date.

ECOLOGY:

The vegetation at this site is comprised primarily of juniper with a few pinyon pines. The understory vegetation consists of big sagebrush, shadscale, snakeweed, galleta grass, Indian ricegrass, squirrel tail grass, and needle-and-thread grass. The total vegetation cover at the site is 9.5 percent. Juniper trees provide 81 percent of this total cover. Deer heard unit 26 A ranges over this site.

STRUCTURES AND FACILITIES:

Facilities at this mine site include the following:

A. Several fill structures over ephemeral drainages.

B. A tailings pond where slurry from concentrator is deposited.

C. A smaller pond below the tailings pond.

D. Several waste dumps where overburden from mining is deposited.

MINING AND RECLAMATION:

Stauffer Chemical Company has committed to the following:

During Operations:

1. Topsoil will be stockpiled where present in sizeable and recoverable amounts. Stockpiled topsoil will be utilized for immediate use on the contoured dumps or kept for future used.

2. The overburden will be drilled and blasted and removed to a dump area. Most dumps will be located in previously mined areas of the property. Other dumps will disturb new ground.

3. The ore will be drilled, blasted and loaded into trucks and hauled to the crusher and concentrator. Access roads to the area of mining will be constructed of overburden from the mining operation or material from road cuts. A system of French drains will be utilized in crossing drainages. Additionally, access roads will be crowned or sloped to one side to provide drainage of water off the road surface.

4. Dust will be controlled on the roads by spraying from water trucks.

5. Plans for future road fill structures will be submitted to the Division prior to site preparation and construction and will be designed so that failure will not result from the 100 year flood event.

After Operations:

1. Extraneous debris, scrap, and unuseable buildings will be removed from the surface.

2. All waste dumps will be regraded to a rounded and naturally draining configuration.

3. All attempts will made to restore the land to a rolling hill topography intermingled with slick rock surfaces and some pit highwalls. Any highwalls which are left will be adequately bermed for safety.

4. The tailing impoundment area will be left in a non-impounding condition by use of a spillway or spillways cut through the natural ground. This spillway will be adequately rip-rapped to prevent undue erosion.

5. Stockpiled topsoil will be spread over the disturbed surface and revegetation will commence on these areas according to ongoing revegetation efforts during the entire mine life.

VARIANCES TO RULE M-10:

The following variances have been requested by Stauffer Chemical Company and are approved by the Division staff:

Rule M-10(3):

The tailings pond impoundment area will be left in a non-impounding condition by use of a spillway(s). In order to engineer this, 5-9 vertical feet of water will be impounded in a small area. $\Delta \approx \frac{1}{2}$ A surface area

Rule M-10(5):

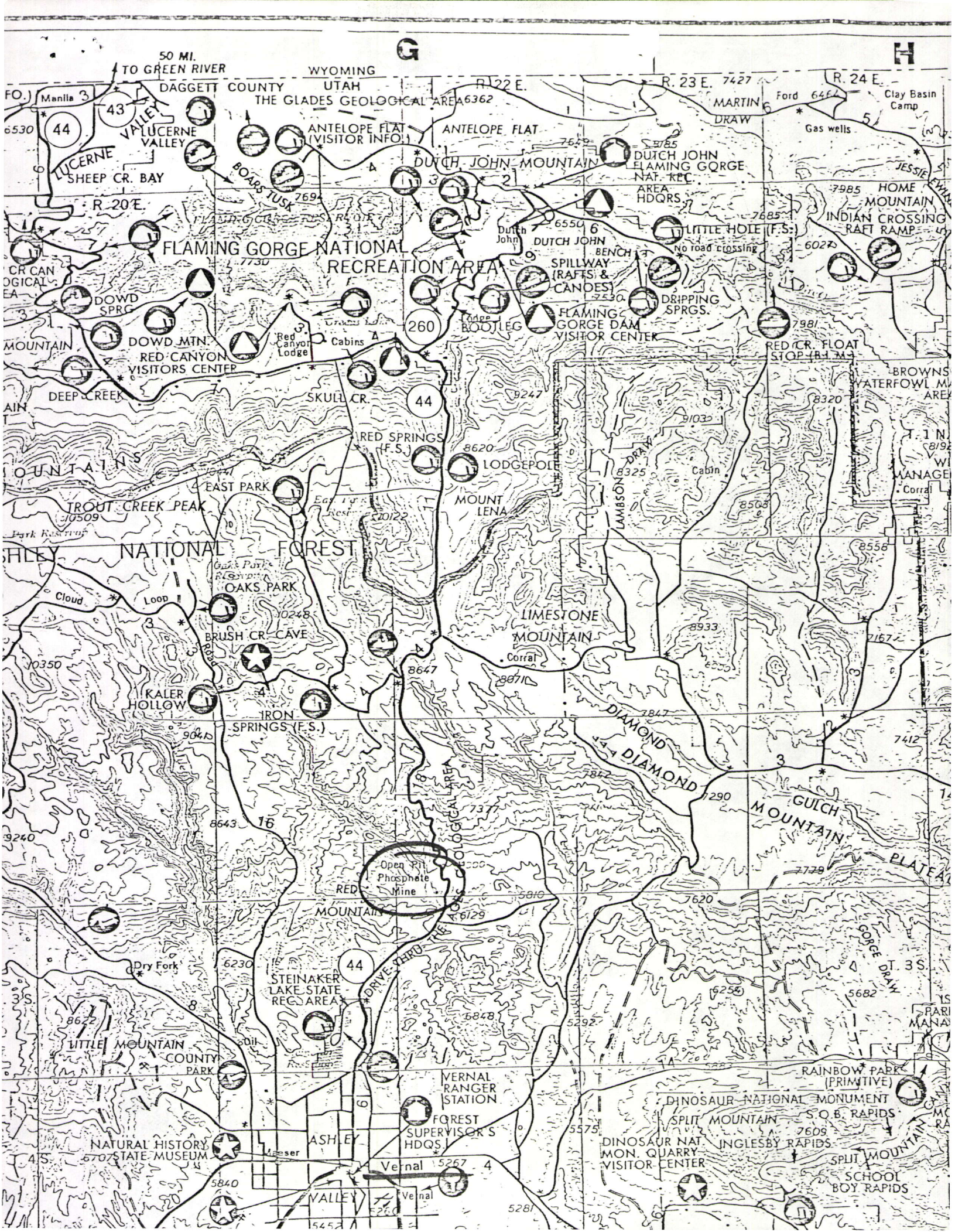
Highwalls may be left in place at end of the mine life with the provision for four foot high berms of competent rock to surround the highwalls.

Rule M-10(8):

Natural channels and drainages may be mined through, provided that they are expeditiously reclaimed, and they may be filled as road pads as specifically approved by the Division after a suitable hydrologic study has been accomplished and a sound hydrologic design is shown to be incorporated in the plan for road fills.

Rule M-10(12):

Exemptions to the revegetation requirements are granted for the following areas only, (a) solid rock outcrops, and (b) the vertical portion of highwalls.


G
H
50 MI. TO GREEN RIVER
WYOMING
UTAH
DAGGETT COUNTY
THE GLADES GEOLOGICAL AREA
R. 22 E.
R. 23 E.
R. 24 E.
Manila
Clay Basin Camp
Ford
MARTIN DRAW
Gas wells
LUCERNE VALLEY
LUCERNE
SHEEP CR. BAY
ANTELOPE FLAT (VISITOR INFO.)
ANTELOPE FLAT
BOARS TUSK
DUTCH JOHN MOUNTAIN
DUTCH JOHN FLAMING GORGE NAT. REC. AREA HDQRS.
HOME MOUNTAIN
INDIAN CROSSING RAFT RAMP
R. 20 E.
LITTLE HOLE (F.S.)
No road crossing
DUTCH JOHN BENCH
FLAMING GORGE NATIONAL RECREATION AREA
SPILLWAY (RAFTS & CANOES)
DRIPPING SPRGS.
DOWD SPRG.
DOWD MTN.
RED CANYON VISITORS CENTER
Red Canyon Lodge
Cabins
BOOTLEG
FLAMING GORGE DAM VISITOR CENTER
RED CR. FLOAT STOP (R1 M.)
DEEP CREEK
SKULL CR.
RED SPRINGS (F.S.)
LODGEPOLE
EAST PARK
MOUNT LENA
LAMBSON DRAW
Cabin
Corral
TROUT CREEK PEAK
NATIONAL FOREST
OAKS PARK
Cloud Loop
BRUSH CR. CAVE
KALER HOLLOW
IRON SPRINGS (F.S.)
LIMESTONE MOUNTAIN
DIAMOND MOUNTAIN
DIAMOND GULCH MOUNTAIN PLATEAU
Open Pit Phosphate Mine
RED MOUNTAIN
DRIVE-THRU THE GEOLOGICAL AREA
Dry Fork
STEINAKER LAKE STATE REC. AREA
LITTLE MOUNTAIN COUNTY PARK
VERNAL RANGER STATION
FOREST SUPERVISOR'S HDQS.
NATURAL HISTORY STATE MUSEUM
ASHLEY
Vernal
VALLEY
GORGE DRAW
RAINBOW PARK (PRIMITIVE)
DINOSAUR NATIONAL MONUMENT
S.O.B. RAPIDS
SPLIT MOUNTAIN
INGLESBY RAPIDS
DINOSAUR NAT. MON. QUARRY VISITOR CENTER
SCHOOL BOY RAPIDS
44
43
260